



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,694	09/07/2000	Aravind Padmanabhan	9028/322(H16-26318)	2388

128 7590 11/19/2002  
HONEYWELL INTERNATIONAL INC.  
101 COLUMBIA ROAD  
P O BOX 2245  
MORRISTOWN, NJ 07962-2245

EXAMINER

EASTHOM, KARL D

ART UNIT	PAPER NUMBER
----------	--------------

2832

DATE MAILED: 11/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/656,694

Applicant(s)  
Padmanabhan et al.

Examiner  
Karl Easthom

Art Unit  
2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Oct 4, 2002
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above, claim(s) 19-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18, 33, and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some\* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Art Unit: 2832

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 12, it appears a trademark is claimed. Such a term is not clear since it is not clear what the claimed material is, as a trademark typically designates a source of goods, not a material.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-4, 7, 10, 13-16, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Bertram et al. Bertram discloses the claimed invention at Fig. 2 with the sensor an RTD temperature sensor 8 with connection material 4 in openings in substantially solid body 2. An RTD detects temperature in the environment - claim 4. In claims 7 and 10, alumina is disclosed for 2. The ladder or grid at Fig. 3 is deemed a plurality of parallel and/or series resistive sensing elements by way of the resistive grid or ladder of platinum, col. 1, lines 47-52, col. 2, lines 34-40. A portion of the RTD heats and portions of it sense. That is, the RTD both heats and senses, and since there are multiple parts of the grid, the claim is met. The claim does not preclude that the heater and sensor are joined, or that the heater can also sense. Any resistor

Art Unit: 2832

heats. In claims 14-16, there are more than two plugs 4 and holes disclosed at col. 2, lines 1-5 thus one of the additional plugs of the plurality of plugs 4 meets the claim. Or in claim 14, the insulator 10 and substrate 2 meet the claim as a second and first material, with the first material 2 below the sensing elements. Or as another alternative to claims 14-16, the insulator 10 is a first material plug, which is depicted as "substantially" cylindrical within the vias in Fig. 2 - thus below the sensing film 8. Or, the insulator 10 is below the sensing elements when the device is upside down - such as could occur during shipping or handling or sensing.

5. Claims 1-5, 8, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Strott et al. Strott discloses the claimed invention at Fig. 1, with sensing elements 3, 12, 13 coupled to the front surface of insulating body 4 having connection material 9 in a plurality of openings thereof. In claim 8, 4 is glass. In claim 14, there are at least two materials, 4, 2 and/or 5. In claims 2 and 5, the heater can be any of the sensors since resistors must heat, or the heater 5 is "coupled" to the front surface of 4.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. As an alternative to the grid comprising at least one thermal sensor and at least one heater, where it is assumed *arguendo* the limitation is not met in Bertram, the following applies:

Art Unit: 2832

8. Claims 1-16 and 33-34 rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram in view of Morimasa et al. The claimed invention is disclosed as noted above, except the heater and two thermal sensors, and the materials for the substrate of glass, and silicon. The noted arrangement is disclosed at Fig. 4 with sensors 9,10 and heater 8, while the substrate 2 is either silicon or photosensitive glass, see col. 2, lines 1-65, and col. 4, lines 24-35, as typical arrangements for thermal sensors, such that it would have been obvious to arrange the thermal sensor of Bertram et al. as a typical flow sensor having the typical materials for the purpose of forming a robust sensor, as disclosed at col. 1 of Bertram. In claims 8 and 9, highly melting and insulating are terms of degree deemed met by the materials noted. In claims 11-12, the type of materials are known as photosensitive glasses so that it would have been obvious to employ any type where a photosensitive glass is disclosed. The types are so well known as to have trademarks. Applicant also admits at page 13 that Pyrex is well known in the art for manufacturing glass components.
9. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram, or Bertram with Morimasa (in the alternative as noted above); further in view of Gerblinger et al. The invention disclosed as noted above except the first material of glass. Bertram discloses a first material 10 that is insulating and hatched as glass, that is depicted as below the sensors 8 in the form of a plug at Fig. 2. Gerblinger discloses using glass to protect platinum type sensors such as that of Bertram, so that it would have been obvious to employ glass to protect the sensors.

Art Unit: 2832

10. Claims 11-12 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram, or Bertram with Morimasa (in the alternative as noted above); further in view of Kushida et al. The claimed invention is disclosed as noted above, except fused silica as a substrate. Kushida discloses fused silica - or quartz, as a substrate 14, such that it would have been obvious to employ the known substrate as a substrate for a temperature sensor such as that of Bertram, to alter the desired response time. As to claims 12 and 34, generically glass is claimed, so that the claims are met.

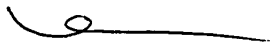
11. Applicant's arguments filed 10/4/02 have been fully considered but they are not persuasive. Applicant argues that there is only one sensor in Bertram et al. This is not correct, each portion of the grid is a sensor, because its resistance changes in response to localized temperature changes. Each portion is also a heater, since a resistor is a heater. As to lack of motivation, both references disclose thin film resistive temperature sensors. The ambient or fluid can be sensed by the devices in both references. Both references employ relative cooling or heating of a portion of a resistor element in order to detect temperature changes. Both references are within the same field of endeavor, thin film resistive temperature detectors. It is hard to imagine a more narrowly defined field of endeavor. Further, both references are devoted to solving a particular problem such as making a robust temperature sensor having a thin film resistive sensor, see col. 1 of Bertram, and abstract of Morimisa.

Art Unit: 2832

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703)308-3306. The examiner can normally be reached on M-Th. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703)308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7722. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
KARL D. EASTHOM  
PRIMARY EXAMINER